

# How Plants Work: A Puzzle of Plant Parts

## *Student's Edition*



UNITED STATES  
BOTANIC GARDEN



# A Puzzle of Plant Parts

*Why do plants have so many different parts?*

## Exploring the Conservatory...

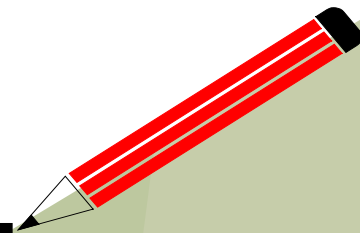
Follow your teacher or chaperone and explore the many rooms of the Conservatory and start to notice the different parts to a plant.



### Puzzle Piece #1: STEMS!

Look at the many plants and see if you can find the stems of these plants. Select one plant and draw its stem below.

Plant Name: \_\_\_\_\_



The stem holds up the leaves and flowers of a plant. This is important because the leaves need to be held up to the sun to get light for photosynthesis and the flowers need to be held up to be available for pollination. Stems carry water and minerals up from the roots to the leaves to help with photosynthesis and take food back down to be stored.

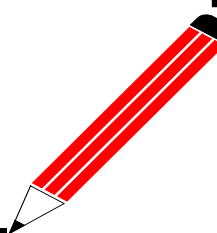




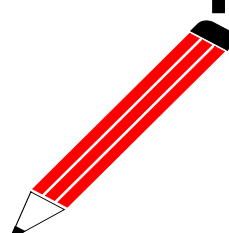
## Puzzle Piece #2: LEAVES!

If you are not already in the Jungle, make your way there and discover the plants in the Jungle. Find two plants with COMPLETELY DIFFERENT leaves, one from the ground floor and one from the canopy. Look at leaf shape, color, size, and texture to find differences. Draw each leaf in the space provided, making sure to write down the name of the plant it belongs to.

Plant Name: \_\_\_\_\_



Plant Name: \_\_\_\_\_



**Think Tank!** What influences the size of a plant's leaves?

Leaves are the usual site of photosynthesis. Transpiration (evaporation) occurs in the leaf and draws water and minerals up from the roots. Leaves are the place of gas exchange: carbon dioxide in, oxygen out!





### Puzzle Piece #3: ROOTS!

Follow your teacher to Orchids. Look up, down, and all around. Notice that some orchids grow in the soil, some in the rocks, and some in the air! Find a plant that has roots above ground. In the space below draw both the plant you found, and its surrounding habitat.

Plant Name: \_\_\_\_\_



### Puzzle Piece #4: FLOWERS!

Stay in the Orchid Room, but this time look at all the different flowers. Find your favorite flower and draw it in the space below.

Plant Name: \_\_\_\_\_



**Think Tank!** Why do some roots grow above ground?



**Think Tank!** What is the purpose of a flower? Find a partner and share your thoughts.

Roots absorb water and nutrients. Roots help anchor the plant. Roots also can act as 'storage closets' for the sugars and starches that the plant will need for future growth.



### **Dig Deeper...**

Follow your teacher or chaperone back to the Garden Court. Use your knowledge of plant parts to explore the Garden Court and answer the following questions:

- 1.** Find a plant that humans depend on for something they drink. Which part of the plant is used in this drink?

Plant: \_\_\_\_\_  
Product: \_\_\_\_\_  
Plant Part: \_\_\_\_\_

- 2.** Find and list below two plants with parts that are used to season and flavor foods and/or drinks. What part of that plant do you use?

Plant: \_\_\_\_\_  
Plant Part: \_\_\_\_\_  
  
Plant: \_\_\_\_\_  
Plant Part: \_\_\_\_\_

- 3.** Look at the large murals. Find a plant that is used to make a product that is not a food or a beverage. What part of the plant does this item come from?

Plant: \_\_\_\_\_  
Product: \_\_\_\_\_  
Plant Part: \_\_\_\_\_

### **What Did You Learn?**

Plants and humans are both alive, but they function differently to allow them to cope with the challenges in their environments.  
Is this statement true or false? Why?

